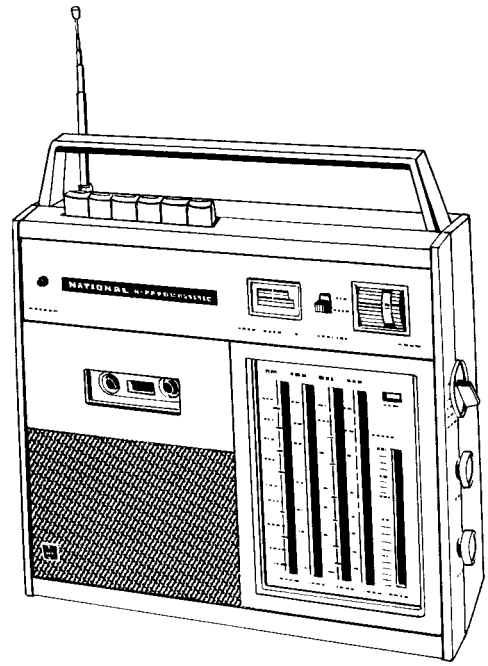
MODEL RQ-235S

SOLID STATE CASSETTE TAPE RECORDER WITH MW/SW RADIO



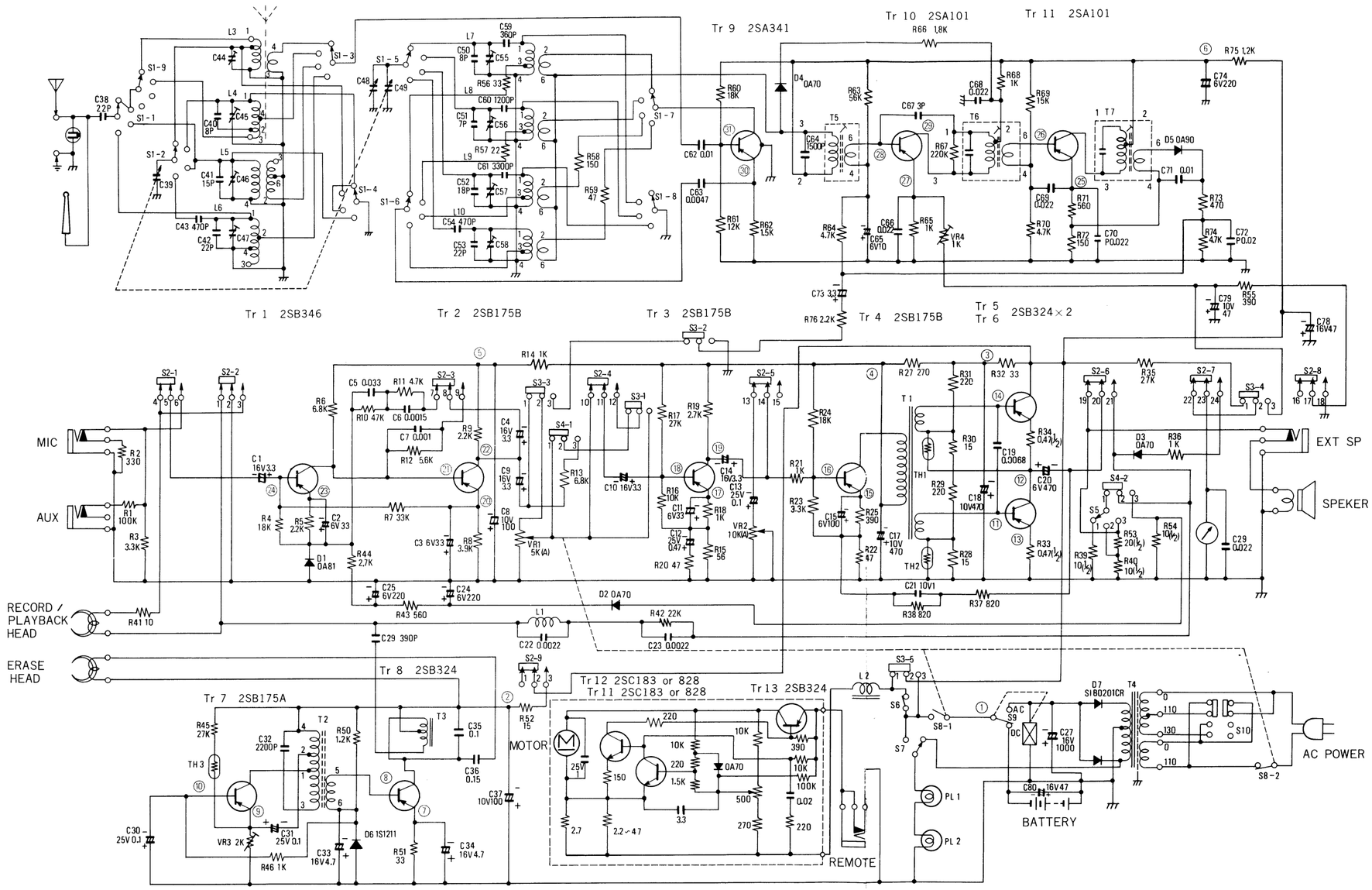
SPECIFICATIONS

Power Source:	AC: 110, 220, 240 Volts 50/60 Hz DC: 9 Volts (six UM-1 batteries)		
Power Consumption:	6 W		
Motor:	Electronic governor motor		
Music Power:	Approx. 3W		
Transistors:	2SB346 (1) 2SB324 (4)	2SB175 (4) 2SA101 (2)	2SA341 (1) 2SC183 (2)
Diodes & Rectifier:	OA81 (1) 1S1211 (1)	OA70 (3) SIBO201CR (1)	OA 90 (1)
Thermistors:	QVM300A (2)	QVM302A (1)	
Tape Speed:	1-7/8 ips		
Frequency Response:	50 – 10,000 Hz		
Inputs:	"MIC" 300Ω "AUX" 100KΩ		
Output:	"MONITOR" 8Ω		
Recording System:	AC bias 35 kHz		
Erasing System:	AC erase		
Fast Forward Time:	Approx. 90 seconds with cassette tape RT-60		
Rewind Time:	Approx. 90 seconds with cassette tape RT-60		
Battery Life:	Approx. 11 hours (Using NATIONAL Hi-Top batteries)		
Dimensions:	11-7/8" (W) x 12-1/4" (H) x 4" (D)		
Speaker:	4" dynamic speaker		
Weight:	Approx. 9 lbs		
– RADIO SECTION –			
Frequency Range:	MW 525 – 1605 kHz SW1 1.6 – 4.5 MHz SW2 4.5 – 12 MHz SW3 12 – 26.1 MHz		
Intermediate Frequency:	MW, SW 455 kHz MW, SW1 50μV/50 mW		
Sensitivity:	SW2, SW3 15μV/50 mW		

RQ-235S

Item		Value
Recording Bias Current	(mA)	0.45 ± 0.05
Recording Signal Current	(mA)	0.05
Input Level	(dB) at 1 kHz	MIC – 74 ± 3 AUX – 23 ± 4
Playback Amp. Gain	(dB) at 1 kHz	78 ± 3
Erasing Current	(V)	8.5 ± 0.5
Erasing Rate	more than (dB)	45
Overall Signal to Noise Ratio	more than (dB)	35
Cross Talk	more than (dB)	40
Rewind Time	less than (sec.)	80 (300 ft)
Fast Forward Time	less than (sec.)	80 (300 ft)
Wow & Flutter 7-1/2 ips	less than (%)	—
3-3/4 ips	less than (%)	—
1-7/8 ips	less than (%)	0.45 (RMS)
Tape Speed Accuracy	within (%)	± 3
Tape Speed Fluctuation	less than (%)	2
Takeup Tension	(gr-cm)	30 – 60
Fast Forward Tension	(gr-cm)	50
Rewind Tension	(gr-cm)	50
Back Tension	less than (gr-cm)	5
Pad Pressure	(gr)	—
Consuming Current in Playback VR min.	(W)	6 (PLAY)
Pressure Roller Pressure	(gr)	350 – 500

SCHEMATIC DIAGRAM MODEL RQ-235S



STANDARD VOLTAGE/CURRENT CHART

Check Point	Recording	Playback	Check Point	Recording	Playback
1	−9.0 V	−9.0 V	9	−1.7 V	−1.7 V
2	−8.45 V	—	10	−1.84 V	−1.84 V
3	−8.2 V	−8.2 V	11	−2.43 V	−2.43 V
4	−6.8 V	−6.8 V	12	−2.82 V	−2.82 V
5	−5.6 V	−5.6 V	13	−3.0 V	−3.0 V
6	−4.8 V	−4.8 V	14	−3.9 V	−3.9 V
7	−0.62 V	—	15	−1.1 V	−1.1 V
8	−0.71 V	—	16	−1.16 V	−1.16 V
9	−0.69 V	—	17	−0.842 V	−0.84 V
10	−0.1 V	—	18	−1.06 V	−1.07 V
11	−0.18 V	−0.18 V	19	−0.29 V	−0.305 V
12	−4.6 V	−4.6 V	20	−0.495 V	−0.51 V
13	−0.01 V	−0.01 V	21	−4.1 V	−4.0 V
14	−4.8 V	−4.8 V	22	−1.67 V	−1.55 V
15	−0.9 V	−0.9 V	23	−1.85 V	−1.84 V
16	−1.1 V	−1.1 V			

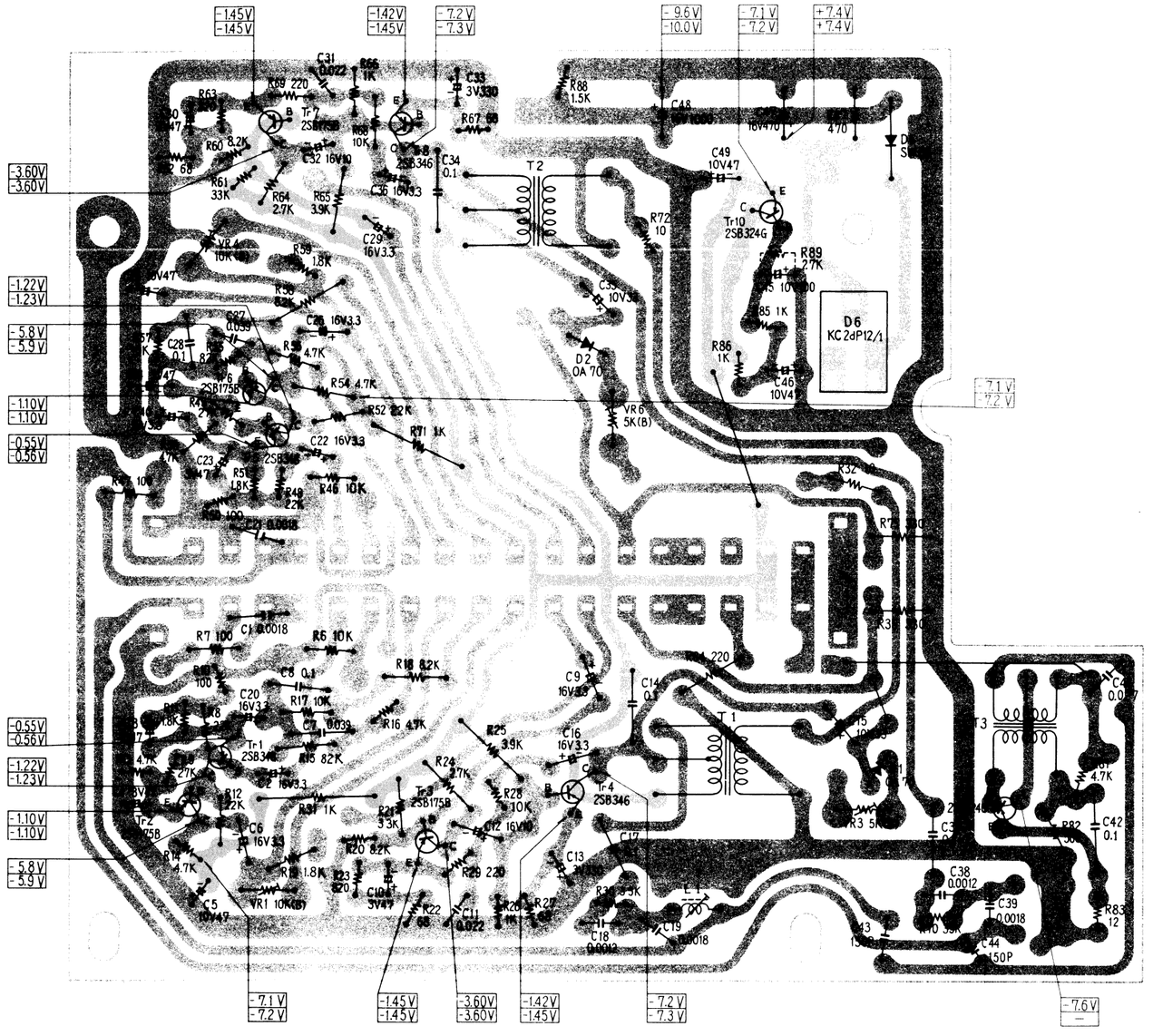
NOTE: All measurements are under no signal conditions with volume at minimum position. Use M-type VTVM for AC voltage measurements and P-type VTVM for DC voltage measurements.

NOTE:

1. S1-1～S1-9 ... Band Selector Switch (Shown in MW position). MW, SW1, SW2, SW3.
2. S2-1～S2-9 ... Record Playback Selector Switch (Shown in Play position).
3. S3-1～S3-5 ... Tape Radio Selector Switch (ShoWn in Tape position).
4. S4-1, S4-2 ... AGC Selector Switch (Shown in OFF position).
5. S5 ..... Monitor Switch (Shown in OFF position).
6. S6 ..... Stop Switch (ON at only Play).
7. S7 ..... Dial Light Switch.
8. S8-1, S8-2 ... Power Switch (Shown in OFF position).
9. S9 ..... AC DC Selector Switch (Shown in DC position).
10. S10 ..... Voltage Selector Switch.
11. Resistors are 1 4 watt unless specified otherwise. K=1,000Ω, M=1,000,000Ω.
12. Capacitors are microfarad (μF) unless specified otherwise. P=Micro-microfarads.
13. Encircled numbers ( ) show the checkpoints for voltage and current. The values are marked in the standard voltage current chart.

CIRCUIT BOARD MODEL RS-256US

MAIN CIRCUIT BOARD

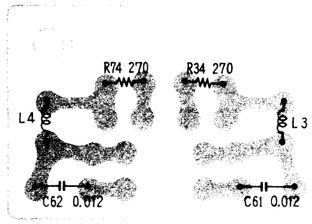


NOTE:

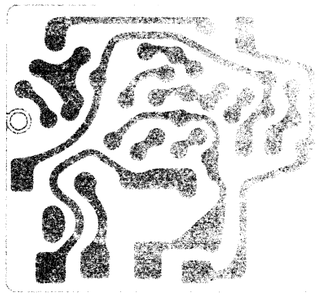
The circuit shown in red on the conductor side is ··· B circuit.
Values indicated in ▭ are DC voltages between the chassis and electrical parts.
The upper values should be measured during recording and the lower values during playback.

INDICATOR CIRCUIT BOARD

NS CIRCUIT BOARD



MOTOR CONTROL CIRCUIT BOARD



CIRCUIT BOARD MODEL RS-256US

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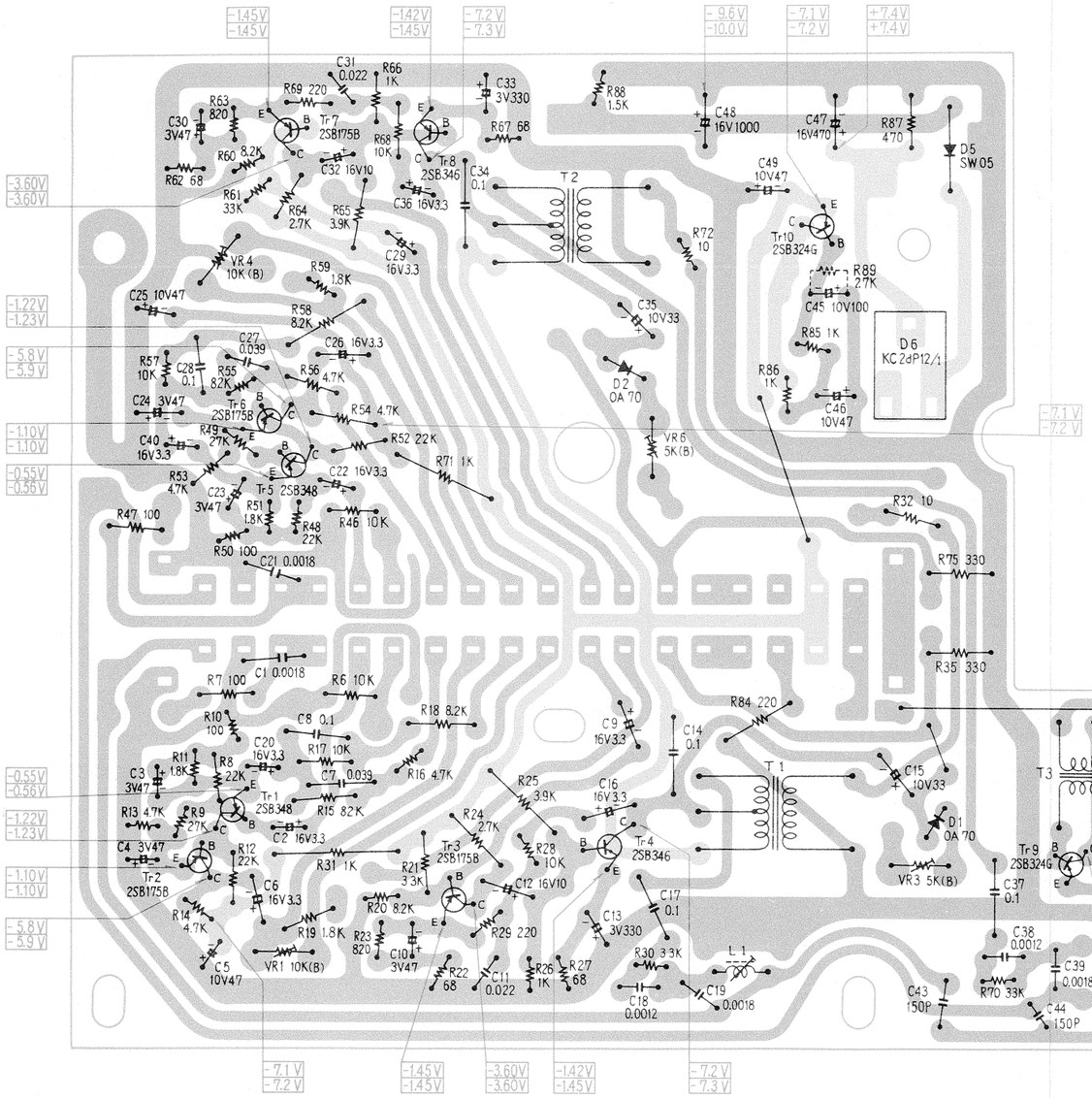

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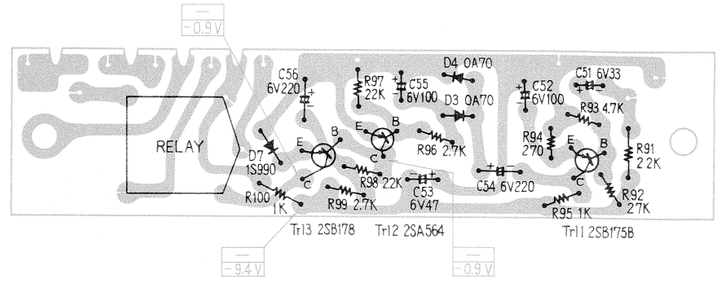

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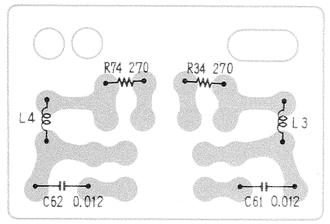

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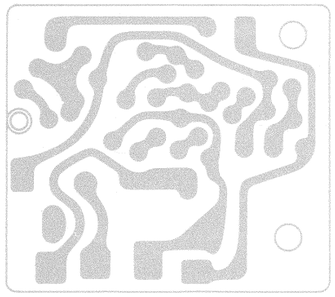

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